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ABSTRACT

The Department of Community Nursing and the Open Learning Centre of Technikon Natal (South Africa) and the community-owned Community Development Programme are collaborating to provide online learning to rural and urban community nurses. The project involves the development of a multimedia pharmacology course, a virtual Internet class, and the provision of information points (telecenters) in factories, rural police stations, refitted containers, and the like. This is a response to the acute need for training of community nurses operating under difficult conditions, with few resources, in primary health care settings in Kwa Zulu Natal (South Africa). (Author/MES)

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# The Barefoot Teacher on the Telematic Highway - Serving Rural Communities in Kwa Zulu Natal

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**Abstract: The Department of Community Nursing and the Open Learning Centre of Technikon Natal, and the community owned Community Development Programme are collaborating to provide online learning to rural and urban community nurses. The project involves the development of a multimedia pharmacology course, a virtual Internet class and the provision of information points (tele centres) in factories, rural police stations, refitted containers, and the like. This is a response to the acute need for training of community nurses operating under difficult conditions, with few resources, in primary health care settings in Kwa Zulu Natal.**

## Background and Problem Statement

The Natal Technikon's Department of Community Nursing, in association with Open Learning Centre at the same institution, has initiated an on-line certificate course, in a joint venture with the Community Development Programme.

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In keeping with the larger objectives of the new South African National Qualifications Framework, i.e. to facilitate access to, and mobility and progression within, education, training and career paths, these departments support the rationale for restructuring South African education by the South African Qualifications Authority (SAQA). They recognise that telematic learning lends itself to Outcomes Based Education (OBE) in both style and philosophy.

"One of the saddest achievements of widespread public education in the twentieth century was the embedding of an attitude that education was about certificates and status but had little relationship to the way one lived one's life or did one's work. The attitude was intensified in apartheid education. This could even be reflected in critical and radical action, where we still find supposed change agents who know all the words about critical pedagogy and empowerment, but cannot suggest one practical way of enacting these abstractions in real places and lives of real people." (French 1997)

Therefore the Community Nursing project, which involves developing in-house courseware and a virtual classroom on the Internet, to meet the needs of the nurses stationed in remote areas - this in addition to the more usual teaching methodologies reflected in the existing pharmacology course. Urban community nurses based in factory clinics and urban primary health care points would also gain much from this distance course with regard to recent advances in distance education.

It is relatively easy to involve urban post-graduate community nurses in vital training required to equip them for significant changes in their roles - changes brought about by recent access for all South Africans to primary health care. Nurses in the rural areas, however, where there are few doctors and even fewer facilities, have little or no access to the information they need to carry out duties for which they have not been adequately prepared.

Apart from the problems of distance and suitable times usually associated with the need for online learning, there are few telephones, a rudimentary electrical power infrastructure, and a lack of computer literacy on the part of the nurses out in the rural areas. Access to service and repair of equipment is non-existent.

Crucial considerations are:

- the rural communities are fiercely suspicious of projects which they do not initiate themselves, for obvious reasons,
- once accepted and put in to place, the projects need to become self sustaining, and
- each project should contribute to the development of the community holistically.

## The Community Development Programme Involvement

The Community Development Programme (CDP) operates a system whereby people with identified needs are formalised into small groups, and are then assisted to meet their needs by training, business mentorship and/or other forms of practical help. (Further details on the CDP can be found at http://cdp.co.za)

The CDP enjoys large-scale support by rural communities and CDP community facilitators will ensure acceptance of the Department Of Community Nursing's distance learning programmes.

Furthermore, the CDP is in a position to involve Telkom (telephone and Internet services) and ESKOM (electricity) at post offices, army bases and police stations for suitable placement of training centres.

Therefore, the CDP has been commissioned to identify and prepare suitable facilities for training the nurses, using already identified community information centres such as schools, post offices, police stations, factories and municipal offices. Each centre would be need to be equipped with a phone line, modem and computer and funding for Internet operating costs by the community itself with loans from the CDP National Trust Fund. These will be known as CDP telecentres.

Where there is extreme need and severe lack of facilities, the CDP is seeking corporate social responsibility funding to equip large shipping containers, already donated to the CDP, with necessary

technology - a generator and cell phone, if needs be - as an information/training centre. The use of wireless Internet technology and cell phones are being investigated as a practical solution to the absence of telephone lines.

## The Community Development Programme (CDP)

South Africans of European origin often find it difficult to relate to the concept of community life. They tend to be trained to be independent and self-sufficient. To rural Zulu's the concept of community based life style is obvious and normal. They share facilities, work together towards the common good, share a common identity and tend to be transparent with each other. This often creates a culture of rejection and suspicion when Western business practices intrude into rural life in the form of social corporate responsibility initiatives.

The Community Development Programme tries to bring the two philosophies together, so that communities can benefit from corporate involvement, and develop their own forms of commerce and trade without being disempowered. The CDP aims to educate and train participants to meet self-identified needs, and to provide access to corporate resources and infrastructures, so that communities and, ultimately, individuals can become financially independent and self-sustaining.

The programme endeavours to set in motion a process of economic and social empowerment by stimulating the creation, and equal distribution, of wealth by using participating communities' resources, abilities and consumer buying power to their own advantage. The participants are managed at a highly competent level, consulting with and being guided by qualified leaders in specific areas of expertise, employed in the geographical areas of the local communities.

## The Open Learning Centre's Involvement

The Open Learning Centre at Technikon Natal, Durban, South Africa, has embarked on authoring the pharmacology course. The course will be made available to registered nursing students via the Internet, and on CD-ROM with accompanying work books.

The pharmacology course is the first of the in-house multimedia courses being developed, together with a course in basic physiology for the Human Biology department at Technikon Natal - also for the Faculty of Health. Both multimedia courses will undergo alpha testing in the first six months of 1999 with the help of currently registered students.

Currently, two virtual class sites exist on the OLC Web server, with several others in preparation. The Technikon Natal Community Nursing homepage will be in operation by early next year as corporate sponsorship has been found to run it. (Find the OLC homepage at http://olc.ntech.ac.za)

## The Open Learning Centre's Operations at Technikon Natal

The mission of the Open Learning Centre (OLC) is to offer services, training and support that enable the academic departments of Technikon Natal to develop, implement and research their own telematic teaching and learning resources

Current services comprise:- on-line learning and computer aided instruction for students in key subject areas; development of courseware for academic departments; training and workshops on how to write and develop courseware; and telematic consultative services.

Lecturers from academic departments accompany their students and act as facilitators during weekly computer-assisted learning tutorial sessions. All sessions are time tabled and compulsory (i.e. attendance remains high throughout the year). Most of the sessions are credit bearing (i.e. academic departments allocate marks for completion of lessons on computer).

The OLC multimedia training room is used to prepare academics in the use of telematic teaching and learning technologies. For example, the training room is used by computer studies lecturer Parivash Khalili to teach the subject Operating Systems IV. Her B.Tech Information Technology students make use of the training room in order to access their virtual class on the World Wide Web. First year Residential Childcare students make use of multimedia resources on CD-ROM for the completion of a credit-bearing project.

The OLC's approach to courseware design is to train academics to become involved in "low level" courseware development that is easy to learn and do. OLC staff members co-ordinate the development process and are involved in "high level" development requiring scripting and other specialised skills. The OLC also provides access to courseware development resources such as scanners and software.

A number of workshops were delivered to lecturers during 1998, primarily on designing and managing virtual classes, and on using the World Wide Web as a teaching and learning resource.

## The Department Of Community Nursing's Involvement

The Community Nursing Department is providing the learning material, evaluating the students and managing the pharmacology course. The Department has organised subject expert, Beverly Gold, to write the courseware content and accompanying literature. A full time staff member will operate the virtual class, workshops and online student assessments from the inception of the course in July 1999.

There are no successful distance-based programmes in this discipline in South Africa. There are a number of registered nurses working in varying sizes and types of occupational settings throughout the country, and further north, who are unable to access formal education and training in community health nursing.

If the pharmacology course proves successful, other primary health care courses will be developed along these lines. Nurses in the field are experiencing great problems with the introduction of free primary health care to all South Africans under the age of six. There is a severe shortage of skilled health professionals in the field and nurses have no access to the information they need on a daily basis, and little time or opportunity for upgrading their skills.

## The Department Of Community Nursing At Technikon Natal

Courses are offered in occupational health nursing and primary health care.

In addition to Internet-mediated learning, video technology is also a medium that is being explored by this department. Plans have been put into place to translate one specific programme - a post-graduate course in occupational health nursing - into video and supporting workbook format by the end of 1999. While video material seems to be much more accessible as a means of delivery in the United States, the dollar/rand exchange and the different cultural context, makes it necessary for the department to produce its own video material. Extracts from these videos will be used in the interactive and online courses. The occupational health nursing course, recognised by the South African Nursing Council, has been chosen as it is not dependent on clinical instruction, nor does it necessarily require synchronous lecturer/student contact.

A small but comprehensive studio is being adapted in, and for, the department. Computer technology will be incorporated in the making of the videos. While only 50% of the target group is likely to have access to video machines, the programme is planned so that the workbooks will be sufficient to sustain the learning process. The videos will enhance the concepts and serve to motivate students and provide video clips for the CD-ROM courses. I

The Department of Community Nursing is extremely flexible and intends to exploit all the forms of communication to which students have access.

## In Summary

It is our belief that we do not need to repeat previous technological learning curves. While we have our own unique learning to do in this field, we can simply plug in to the opportunities afforded by the expertise, wide experience and effective telematic technologies, developed by the United States, and simply get on with the urgent need to train our nurses. Our country's training and health care problems are truly desperate. This collaborative multi-modal project by the Department of Community Nursing, the Community Development Programme and the Open Learning Centre at Technikon Natal is one attempt to reach into the rural communities themselves and to bring equality of opportunity and equal access while providing health care.

Fortunately online learning/teaching technology is relatively cheap, suitable for our needs and readily available. From the point of view of experience in the field of telematic learning and teaching, we consider ourselves to be "barefoot", technologically speaking. By firmly directing our "barefoot" teachers and lecturers, and their students, on to the information super highway, we may be able to address some severe problems. Lack of training has lead community nurses to dispense antibiotics to children, which has resulted in them becoming deaf. We need to reach community nurses with the information and support they require in order to operate effectively under difficult and trying conditions as soon as possible.

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